



# Participación Comunitaria en el Manejo de Recursos en el Alto Golfo de California

*Community Participation in the Management of Resources in the The Upper Gulf of California*



*Abundant*  
fisheries lured  
fishermen to the  
Upper Gulf  
“estuary” in the  
1920’s, giving  
rise to three  
fishing  
communities: El  
Golfo de Santa  
Clara, Puerto  
Peñasco, Sonora  
and San Felipe,  
Baja California.



# Producción Pesquera en el Alto Golfo

## *Upper Gulf Fisheries Production*

	<u>Tons/yr.</u>	<u>Valor/Value</u>
Camarón/ <i>shrimp</i>	1,000	157,000,000 pesos
Curvina Golfina	6,000	38,940,000
Sierra	1,500	13,995,000
Tiburón bironcha y tripa	500	4,910,000
Chano norteno	1,300	5,850,000
Guitarra	100	890,000
Manta	100	<u>655,000</u>
TOTAL		222,240,000 = 22 million US

Fuente / *Source*: Iniciativa Conjunta por el Golfo de California (Ago. 2001) En base de valores de producción de 1999. Based on 1999 Production values Puerto Penasco, El Golfo de Santa Clara and San Felipe, B.C.

# Clues to the Past

## Fisheries crises & boom:

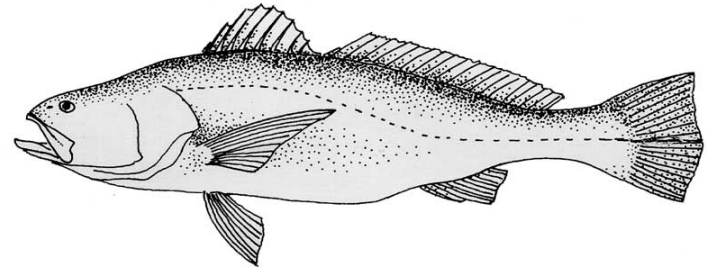
- 1970s collapse of totoaba fishery
- Late 1980s migrating *tiburón bironcha* (shark) schools decline
- Late 80s - early 90s: > 50% reduction shrimp catches, collapse of fishery
- 1993 resurgence of corvina golfina schools, after their disappearance for 40 years!

### Observations:

Fisheries collapse

Overexploitation increases

Estuarine conditions change







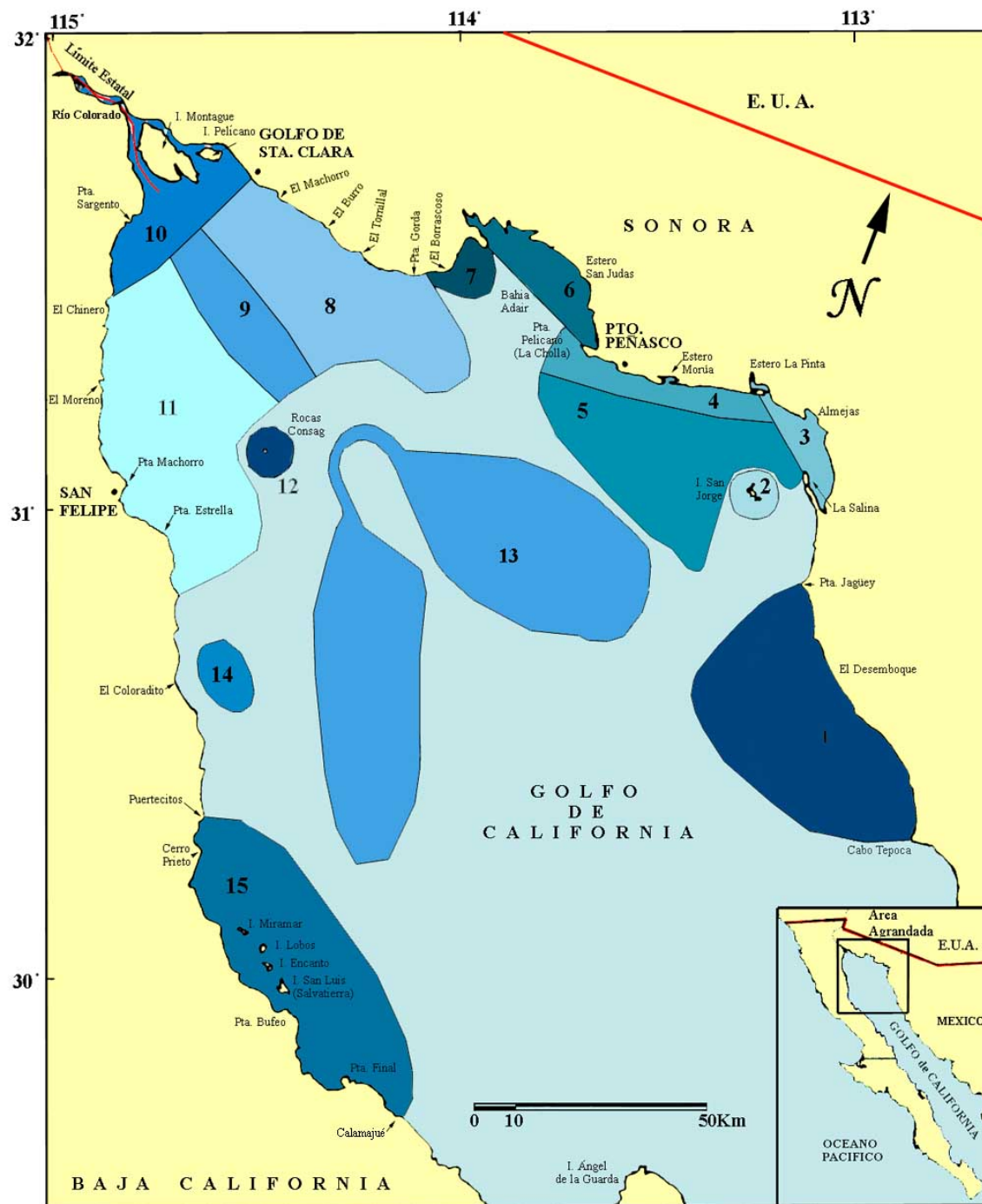
In 1993, in the wake of the shrimp crisis, the Reserve was established to offer protection for Upper Gulf fisheries and for endangered and endemic species. It was supported by the **industrial shrimp sector of P. Peñasco.**



## Small-Scale Fishing Sector

In 1996 CEDO initiated a program to actively involve artisanal fishermen in fisheries issues, coordinated by Richard Cudney Bueno.

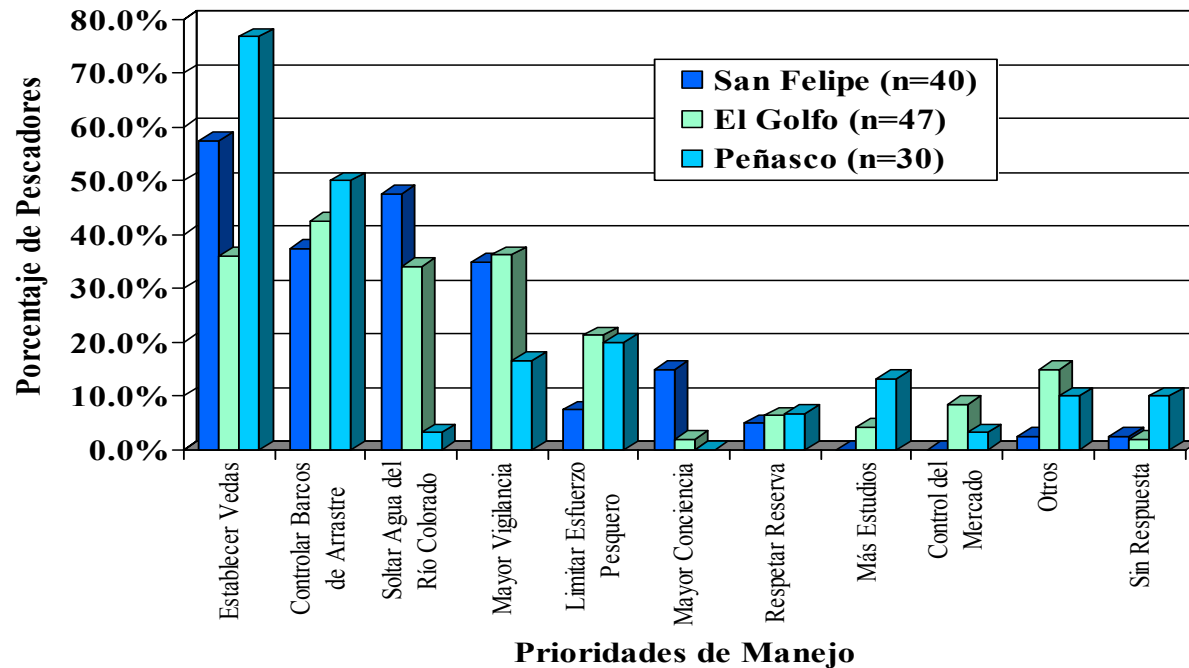
Using various ethnographic methods, 170 structured and semi-structured interviews were done with fishermen and others in the fishing industry.



We produced the *first* comprehensive resource on species fished, zones, reproduction, equipment used and management ideas from fishermen.

- 15 fishing zones
- 70 species fished
- Fisheries are diverse and dynamic.
- Management should involve fishermen and be done by sector or zone to facilitate implementation.

Prioridades de manejo pesquero aportadas por los pescadores artesanales del Alto Golfo de California / *Priorities of fisheries management shared by artisanal fishermen of the Upper Gulf of California.*





# Buzos – Commercial Divers of Puerto Peñasco

## *Leaders in Responsible Fisheries Management*



- Cohesive group
- Eager to manage their resources, especially the Black Murex snail and scallops
- Cudney Bueno studied snail natural history and divers opinions on management and shared results with divers.

SNAIL  
PRODUCTION  
1993- 600 tons  
1999–90 tons





Divers have proposed to government (and themselves):

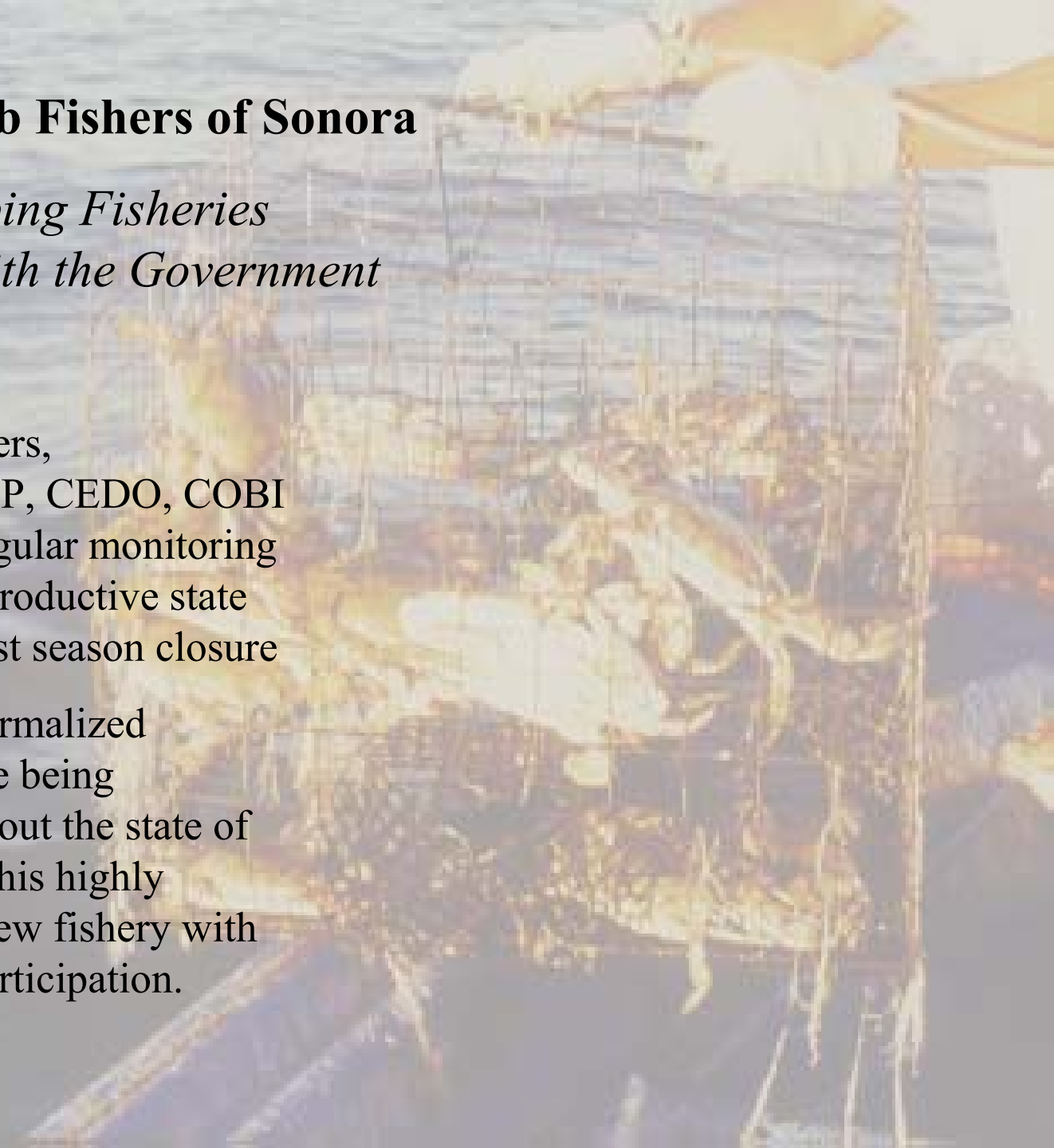
- A formalized season closure for snail
- Shift opening of octopus season one month
- Conduct a certification program and control access of outsiders
- Establish Isla San Jorge as a temporary Reserve or “no-take area”
- Create an exclusive fishing area for Peñasco divers.

# JAIBEROS – Crab Fishers of Sonora

## *Leaders in Developing Fisheries Subcommissions with the Government*

In April 2001 crabbers, administrators, CRIP, CEDO, COBI and others begin regular monitoring of crab size and reproductive state to determine the best season closure

Summer of 2001 formalized subcommissions are being established throughout the state of Sonora to manage this highly valued, relatively new fishery with active fishermen participation.





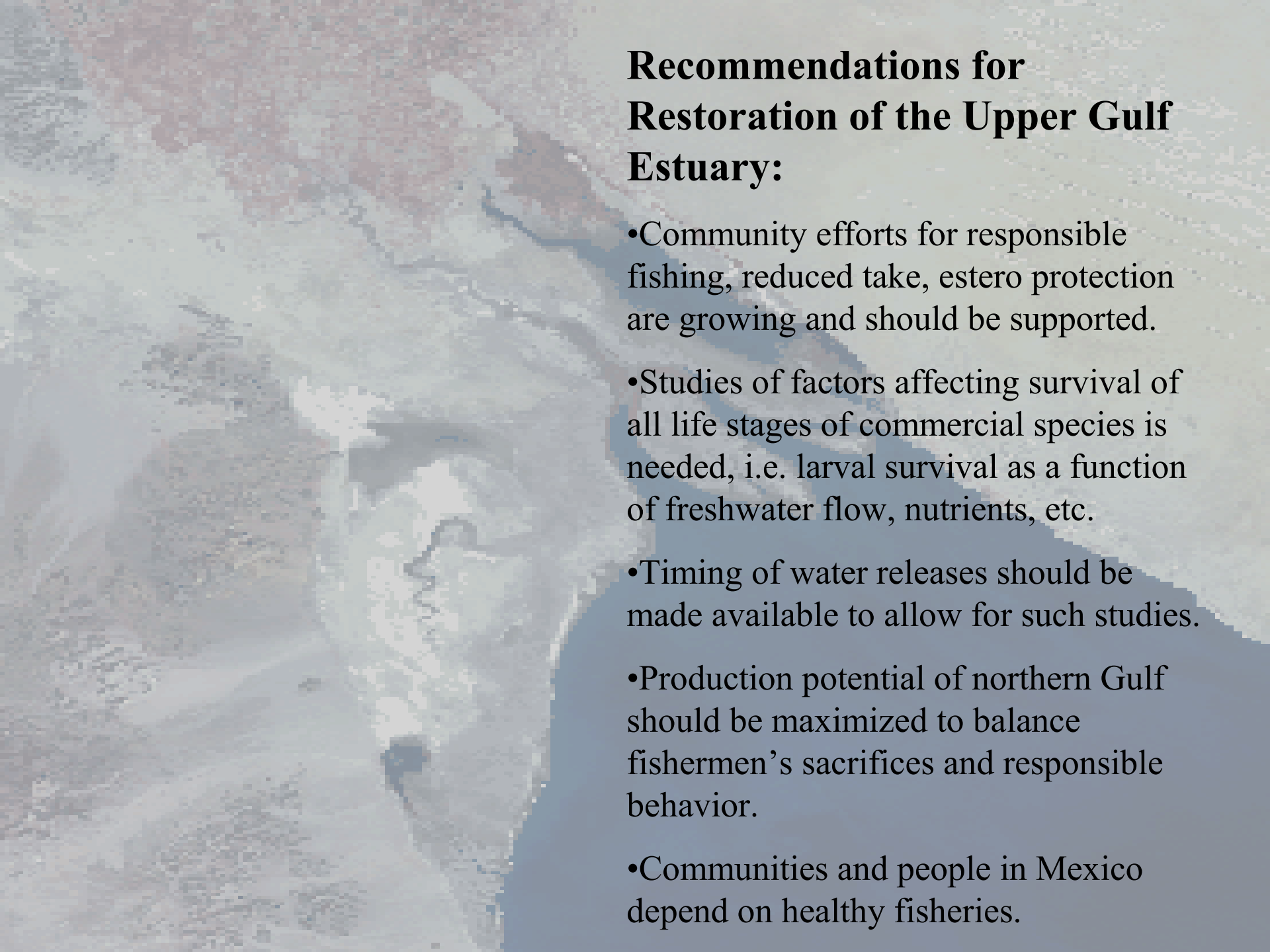
## **Citizen Involvement in Coastal Wetland Management**

Citizens – divers, crabbers, fishers and others of Puerto Peñasco are joining together to discuss the future of the coastal wetlands which, like the entire Upper Gulf of California, are critical to their fisheries. Pronatura Sonora and CEDO are facilitating this effort.

**Threats:** Local and large-scale changes in sedimentation, nutrification, dredging, etc.

**Estero Morúa Pilot Project:**  
Monitoring, Promotion of Sustainable Uses





## **Recommendations for Restoration of the Upper Gulf Estuary:**

- Community efforts for responsible fishing, reduced take, estero protection are growing and should be supported.
- Studies of factors affecting survival of all life stages of commercial species is needed, i.e. larval survival as a function of freshwater flow, nutrients, etc.
- Timing of water releases should be made available to allow for such studies.
- Production potential of northern Gulf should be maximized to balance fishermen's sacrifices and responsible behavior.
- Communities and people in Mexico depend on healthy fisheries.